

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111(a)
Serial Number: 10/724,432
Filing Date: November 28, 2003
Title: HIGH EFFICIENCY SELF-CLEANING CENTRIFUGE

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REMARKS

Applicant has carefully reviewed and considered the Office Action mailed on August 3, 2005, and the references cited therewith. Claims 1 and 13 have been amended, claims 2-12 have been cancelled, and new claims 14-31 have been added, to more fully describe the claimed invention. The following is a description of the support found for these amended and new claims:

The amendment to claim 1 is supported by original claim 1 and paragraph 40 of the application as published.

The amendment to claim 13 is supported by original claim 13.

Claim 14 is supported by original claims 5 and 11, and paragraphs 49, and 50.

Claim 15 is supported by original claim 7, and paragraphs 27, 41, 42, 43, and 44.

Claim 16 is supported by is supported by original claim 4 and 6, and paragraphs 37, 48, and 50.

Claim 17 is supported by paragraphs 46, 48, and 51.

Claim 18 is supported by original claim 1.

Claim 19 is supported by claims 4, 6, and 7, and paragraphs 27, 31, 37, 41, 42, 43, 44, 46, 48, 50, and 51.

Claim 20 is supported by paragraph 31 (Machine tools)

Claim 21 is supported by original claim 1, and paragraph 48.

Claim 22 is supported by is supported by original claim 13, and paragraph 48.

Claim 23 is supported by original claims 5 and 11, and paragraphs 49, and 50.

Claim 24 is supported by claim 7, and paragraph 43.

Claim 25 is supported by paragraphs 11, 31, 46, and 51.

Claim 26 is a means-plus-function claim, and is supported by original claim 1, and paragraph 40.

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Claim 27 is dependent claim on a means-plus-function claim, and is supported by original claim 1, and paragraph 40.

Claim 28 is supported by paragraphs 49 and 50.

Claim 29 is supported by paragraph 46.

Claim 30 is supported by paragraph 46.

Claim 31 is supported by original claim 3, 4 and 10, and paragraphs 31, 32, 51, and 52.

No new matter has been added.

ABSTRACT

The abstract was objected to because it used the word "means". Applicant has amended the abstract to meet the Examiner's requirements. Applicant believes that this amendment provides the application with an abstract that is compliant with MPEP 608.01(b). Reconsideration and withdrawal of the objection is respectfully requested.

TITLE

The title was objected to as not being descriptive of the claims. The title has been amended as follows: APPARATUS AND METHOD FOR A HIGH-EFFICIENCY SELF-CLEANING CENTRIFUGE. Applicant believes that this amendment provides the application with a title that is descriptive in nature, and hence makes the title compliant with MPEP 606.01. Reconsideration and withdrawal of the objection is respectfully requested.

RESPONSE TO REJECTION UNDER 35 U.S.C. § 102(B)

Claims 1-4, 7-10, 12-13 were rejected under 35 U.S.C. § 102(b) as being anticipated by Mattern (US 1,048,846 issued 21 DEC 1912) ("Mattern"). The Applicant respectfully traverses. Mattern described closed-end cups having cylindrical walls that provide a two-directional serial path from the inner cylinder to the next successive outer cylinder. In Mattern, the cylinders 22,

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23, 24 are sealed to bottom disk 25 (forming annular cups open at the top) and disks 32, 33, 34 and sealed to top disk 35 (forming annular cups open at the bottom). This has the disadvantages of making the flow serial and thus impeding the overall flow of liquid through the centrifuge, and of being quite difficult to clean because of the closed ends of the bottom cylinders. In contrast, the present claimed invention recited cylinders, which are open-ended at both ends. Applicant has amended claim 1 to further clarify the nature of the cylinders in the claimed invention. Accordingly, claim 1 and its dependent claims appear to distinguish from the cited prior art. Reconsideration and withdrawal of the rejection and an early indication of allowability are respectfully requested.

With regard to amended claim 13, Mattern describes passages that extend radially and axially only from one end of each set of two sets of cylinders. In contrast, the present claimed invention describes passages that extend radially and axially at both the bottom and top ends. Further, amended claim 13 depends on claim 1 and incorporates a unidirectional parallel flow through a series of cylinders, a limitation that Mattern and the other cited references fail to disclose. This distinguishes from the cited references, accordingly amended claim 13 appears to be in a condition for allowance and such action is respectfully requested.

Applicant has cancelled claims 2-12 in favor of adding clearer claims 14-18. Applicant has added new claims 19-31 to further describe the claimed invention; these claims also distinguish over the cited 102(b) reference. Consideration and allowance of those claims is respectfully requested.

RESPONSE TO REJECTION UNDER 35 U.S.C. § 103(A)

Claims 5, 6 and 11 were rejected as unpatentable over Mattern in view of Nelson (US 6,056,685) ("Nelson"). Examiner's attention is directed to new claims 14 and 16 that replace prior claims 5, 6, and 11. Applicant respectfully traverses. As discussed above, Mattern has closed-end cups and if a braking mechanism were to be added to loosened materials, these materials would settle into the bottom of the cups, thus clogging the centrifuge. Further, Nelson describes a helical conveyor 22 that acts to scrape collected materials off of the bowl shell 18. There is no such structure disclosed in Mattern that would act to scrape matter off of the cylinder

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walls. It is impermissible to use the teaching of the present invention and/or hindsight to attempt to provide a motivation for modifying Mattern to provide braking without also adding a scraping mechanism such as described in Nelson. Consideration of the new claims is respectfully requested in view of the above argument.

INTERVIEW SUMMARY

On November 3, 2005, a telephonic interview was held between Charles A. Lemaire (Reg. No. 36,198) and Examiner Charles E. Cooley. During the course of this interview prior art in the form of Matter was discussed. As is discussed elsewhere in this response, Mattern discloses a centrifuge with no openings at the bottom for sludge to escape once braking occurs. Additionally, Mattern discloses a centrifuge with a serpentine or serial bi-directional flow of liquid. In contrast, the present invention discloses a unidirectional flow of liquid extending radially and axially. Additionally, the present invention discloses openings at the bottom of the centrifuge through which sludge can be evacuated. No agreement was reached as to the allowability of the claims.

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CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorneys Theodore C. McCullough (952-278-3508) or Charles A. Lemaire (952-278-3501) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account Number 502931.

Respectfully submitted,

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By his representatives,

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11/3/05

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Signature

Certificate of Transmission under 37 CFR 1.8: I hereby certify that this correspondence is being facsimile transmitted to the U.S. Patent and Trademark Office (Fax No. 571-273-8300) on this 3rd day of November 2005.